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ABSTRACT

This document reviews programs and policy options for states concerned with methods of financing medical education. An introductory section considers the current climate for medical education and the health care workforce, noting the rapid movement to managed care and the need to increase the number of primary care physicians. The next section examines a variety of approaches by various states for financing graduate medical education (GME), including the following: Medicaid payments to teaching hospitals; line-item/state agency funding for family medicine departments and primary care residencies; and student/resident scholarships and loans with service obligations. This section also identifies emerging state strategies such as regulations requiring public medical schools and residencies to establish family practice clerkships and rural rotations in community settings, and monitoring the use of faculty clinical revenues in public medical schools. Model trends in state GME support are described for the following states: Tennessee, Michigan, Minnesota, West Virginia, and Texas. A policy issues checklist is attached to help states decide how they should support medical education. An appendix provides tables and figures showing number of graduates planning to practice in-state, number of physician residents and residency programs by state, and medical school revenues from states. (DB)

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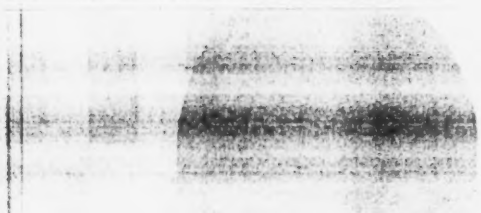

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Financing Medical Education by the States

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August 1998

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Climate for Medical Education and the Health Care Workforce

Two factors—the rapid movement of today's health system to managed care and the continued shortage of physicians and other health professionals in many rural and inner city communities—are combining to heat up the debate about the need for change in the size and shape of the health profession workforce. Central to the debate is whether current state and federal government policies affecting the training of health professions make sense and whether public subsidies should be significantly redistributed to address the nation's persistent but changing health workforce needs more effectively.

For several years, federal and state policymakers, medical educators, health policy experts and consumers have all expressed concern—often alarm—about these trends in medical education and the growing inadequacy of the physician supply to meet the needs of citizens. Overspecialization, a maldistribution of physicians, skyrocketing costs and diminishing coverage—these problems have been explored and analyzed, and various solutions formulated and tested. Yet, there has been limited progress in resolving them.

Capitation payments for services under managed care provide an incentive to deliver market-proven primary and preventive care as a means to control unnecessary medical costs. Health maintenance organizations (HMOs) have long embraced the concept of primary care and have demonstrated a strong preference for generalist physicians. The growth of managed care has thus magnified the need for training more generalist physicians and other providers who deliver primary care and has brought greater attention to the abundance of specialty physicians. In a managed care-dominated environment, the Council on Graduate Medical Education estimates there will be many fewer specialists needed. Specialists outside the field of primary care now constitute 70 percent of the physician workforce in the United States, and recent studies estimate the nation faces a surplus of as many as 150,000 specialists by the year 2000.[1] Ironically, two-thirds of new physicians beginning practice each year are specialist physicians, even as a managed care system that primarily depends on generalists takes hold. One analyst has noted that the use of specialists is so limited under managed care that more than half of them would be unemployed if HMO hiring practices had been adopted across the country as far back as 1988.

Maldistribution of primary care providers is a persistent problem and takes many forms. Caregivers may be available in many places but located too far away to provide timely service, and clients may have difficulty finding transportation, even to a nearby service site. Alternately, providers may not be willing to serve the uninsured or underinsured or may treat them differently than their privately insured patients. Individuals may also delay or fail to seek care because of lack of knowledge about their own health needs or where those needs may be met.

In several states, there is concern over the significant migration of medical school graduates to out-of-state practices. (See table 1 in appendix.) Nationally, just 60 percent of 1997 medical school graduates said they planned to practice in the same state where they attended school. For public medical schools, 71 percent of graduates plan to practice in-state; in contrast, only 42 percent of graduates from private schools reported similar plans. Just 10 states have 75 percent or more graduates planning to practice in-state. Fewer than half of medical school

graduates in 11 states and the District of Columbia plan to stay in-state.[2] The majority of graduates that do plan to stay in-state go on to become generalist physicians.

Restoring the supply of primary care providers through medical education presents a problem of immense proportions. The Bureau of Health Professions of the U.S. Public Health Service recently estimated that, to reach the goal of training at least 50 percent of medical residents in primary care, the annual production of generalists must increase by 2,500 per year, while the output of specialists must decrease by 7,000. (The actual reduction, based on those currently in specialty training, would be about 2,000 per year.) The needed increases in generalists are not likely obtainable in the near future. In fact, even if the training quotas suddenly were realized, health workforce experts project the 50/50 ratio of practicing generalists and specialists would not occur until about 2040.

Workforce experts and policymakers have called on medical education programs to begin training at least 50 percent of their graduates and resident physicians in primary care. Others have suggested that reducing the shortage of primary care professionals should involve educating more mid-level providers (nurse practitioners, physician assistants, nurse midwives) and retraining large numbers of specialists to practice generalist medicine.

Despite the increased attention to primary care, there is a considerable body of opinion that financial support for medical education continues to be heavily skewed to research and that real incentives for medical schools to change their curricula have been lacking. Furthermore, the consensus goes, not enough emphasis has been placed on addressing financial considerations

The Basics of Medical Education

Undergraduate medical education is the education that students receive during four years of medical school. There are two types of medical training schools in this country. Allopathic schools, which graduate doctors of medicine (M.D.s), are the more common medical education institution. All told, there are 125 such schools in the United States, enrolling more than 66,000 students. In addition, there are 19 schools of osteopathic medicine with enrollment now exceeding 9,000 students. Osteopathic medicine is a distinctive form of medical care founded in the late 1800s on the philosophy that all body systems are interrelated and dependent upon one another for good health. Osteopathic physicians (D.O.s) use all the tools available to allopathic physicians including prescription medicine and surgery. When appropriate, they also incorporate osteopathic manipulative treatment—a set of manual medicine techniques that may be used to relieve pain, restore range of motion, and enhance the body's capacity to heal—into their regimen of patient care.

Both forms of medical training graduate about 17,500 students annually—a fairly constant figure during the past 15 years, though with some small decline in the last few years. The ratio of students applying to medical school to those accepted is about 2.5 to 1.

Upon completion of medical school, most physician graduates decide to continue their training by completing a residency of three or more years in a medical specialty. This period of clinical training is called graduate medical education (GME). In 1996, there were a total of 7,800 accredited GME training programs in the United States, with more than 97,500 physician residents attending the programs. (See table 2 in the appendix.) More than 90 percent of all GME programs are affiliated with a medical school.

related to the cost of a medical school education or on the expected income levels following graduation—both of which affect choices by medical students and residents about areas of practice, including specialty and geographic location.

To address many of the above issues, the Clinton administration in recent years has proposed a range of steps. They include: 1) allowing the market to adjust (i.e., medical schools on their own will respond to the rising demand for primary care); 2) setting a policy goal of educating more generalists (the figure typically used is 50 percent of residents entering primary care); 3) restricting the total number of residencies; 4) changing who receives graduate medical education (GME) funds to allow entities other than teaching hospitals to receive a much greater share; 5) broadening the payment base for GME (currently, only Medicare and Medicaid make such payments); and 6) increasing payments for training in nonhospital settings. ■

Financing Medical Education: The State Role

The role of state government in supporting medical education is well established. Since the late 1940's, states have subsidized loan and scholarship programs as financial incentives for medical students and physicians in training, and most states have provided some level of institutional support for medical education. ■

Undergraduate Medical Education

Historically, state general revenue appropriations for medical education have been directed largely to undergraduate training. In 1996, allopathic medical school revenues from state and local government general funds were worth nearly $3 billion. (See figure 1 in the appendix.) Most of the money is unrestricted, and often those funds that go to single institutions are difficult to isolate and analyze.

Although the *amount* of funds states devote to medical education has nearly doubled since the early 1980s, the *proportion* of allopathic medical school revenue from state and local appropriations in 1996 was only 9 percent compared to 23 percent in the early 1980s. (See figure 2 in the appendix.) The shift in the payer mix of medical schools reflects in part the growing importance of patient care or faculty practice plan revenues (33 percent of total revenues in 1996) to the programs.

About 60 percent of all allopathic medical schools and one third of osteopathic medical schools are state-owned or state-related and receive state appropriations. Some states also subsidize private schools. ■

Graduate Medical Education

Most states also elect to provide some level of support for graduate medical education, the major means of which are described below.

Medicaid Payments to Teaching Hospitals

Since the inception of the Medicaid program in the 1960s, states have paid what they believe to be their fair share of graduate medical education costs. Second to Medicare, Medicaid is the largest payer of GME, providing teaching hospitals close to $2 billion annually. Although Medicare has a statutory requirement to support GME, state Medicaid programs have no such formal obligation.

Although Medicaid programs are not obligated to pay for GME, all states except Illinois have volunteered consistently to participate under their fee-for-service (FFS) programs.[3] Although difficult to quantify precisely, in part because of teaching hospitals' receipt of disproportionate share payments, fee-for-service medical education support under Medicaid was estimated conservatively at $1.3 billion in federal fiscal year 1995.[4] (Medicaid GME payments rechanneled under managed care are not included in the estimate.) On average, Medicaid GME payments represent less than 10 percent of a state's total Medicaid FFS inpatient hospital payments.

Under fee-for-service, state Medicaid agencies recognize and reimburse both direct medical education (DME) and indirect medical education (IME) costs incurred by teaching hospitals, using methods similar to those used under Medicare. DME represents those costs directly attributable to the education of residents including salary, benefits, office space and a share of the cost of faculty. IME includes costs that reflect the extra expenses teaching hospitals must incur, such as compensating for the inefficiencies of training providers and caring for sicker patients and greater numbers of the uninsured. Like other payers, Medicaid traditionally has paid teaching hospitals for such costs in recognition that the institutions have higher costs.

As with appropriations for undergraduate training, most state support for GME through Medicaid has not placed restrictions on the specialty of physicians being trained. Because most states, in paying for GME, follow the Medicare methodology that reimburses for education and service provided in hospital-based settings only, Medicaid programs have done little to accept payment for the additional costs of teaching in ambulatory sites. For most ambulatory education programs that train primary care residents, care is provided to large numbers of Medicaid and indigent patients. Typically, such sites, which are not connected to a teaching hospital, earn no additional revenues from Medicaid to cover teaching costs, making it difficult for many of the programs to survive.

Line-Item/State Agency Funding for Family Medicine Departments and Primary Care Residencies

Most states now earmark funds for training in family medicine and other primary care residencies. At least 15 have enacted laws that specifically encourage or mandate creation of departments of family medicine or other family practice training programs in state-supported schools. More than 40 have created special grant programs for family physician training and about half specify appropriations for family practice education. Other states have enacted laws that call for studying the feasibility of establishing residency programs in family practice, based on utilizing clinical sites in rural areas.

According to the American Academy of Family Physicians, a state on average provides about $3.6 million a year (or about $21,000 per state-funded residency position) to support family practice residencies. In recent years, at least eight states each have appropriated more than $7 million annually for such programs. Although family practice residencies have grown significantly in number and size in recent years, state support in general has remained stagnant or declined. Depending on the size of the programs, there is tremendous variance among states as to the amount of a resident's salary or total costs covered by the funds. In general, residency training is financed through a mixture of patient fees, grants and medical education reimbursements. Legislators often view support for residency training as solving problems of access to primary care by rural residents and indigent populations.

Several states also provide matching funds for the support of area health education centers (AHECs). An outgrowth of academic health centers, AHECs promote medical practice in underserved communities by providing continuing education to community-based health professionals and offering community training experiences to health professions students and residents. To support operations in their early development, AHECs typically depend on federal grants and state matching funds.

Student/Resident Scholarships and Loans with Service Obligations

Nearly all states have in place scholarship and loan forgiveness programs targeted to placing small numbers of primary care professionals in medically underserved areas. Many states with few primary care residencies, or with such residencies that have fewer filled positions, are offering loan repayment incentives to medical students who select in-state primary care residencies. Such initiatives are viewed as effective because the site of residency training is thought to be a strong predictor of future practice location. To discourage default, most states levy penalties on students who do not meet their obligations. Financial incentives to medical students and residents are increasingly targeted to those who wish to practice primary care in medically underserved areas. A few states are considering using loan forgiveness to relieve educational indebtedness for would-be primary care practitioners.

Small Grants/Appropriations to Support Nurse Practitioner and Physician Assistant Training

In 1997, 66 nurse practitioner (NP) training programs and 19 physician assistant (PA) training programs received some form of state financial support. On average, state funds represent anywhere from 5 percent to 100 percent of the annual budget of a NP or PA training program, but the percentage is higher for NP budgets (67 percent) than for PA budgets (36 percent). State support is defined as 1) general fund (public) appropriations awarded to the program's sponsoring institution, which in turn uses the state money to support the training program, or 2) a training program's receipt of grant funds earmarked by the state for the program.[5]

Although nurse practitioner and physician assistant training programs now exist in almost all states, major state support is nonexistent. The amount varies greatly among the training programs, from $30,000 to $2.4 million for NP programs and $46,600 to $978,000 for PA programs. State support for NP training may be limited in part because most programs are not affiliated with a larger academic health center.[6] ■

Emerging State Strategies

In recent years, states have been forced to scrutinize their support for medical education and teaching hospitals. In the late 1980s, most states began experiencing major fiscal problems. Beginning in the early 1990s, some states, perceiving an oversupply of physicians, reduced their support for medical education. At the same time, states have become increasingly concerned about the maldistribution of primary care physicians and the unmet needs of many rural and inner city areas.

By intensifying pressure on medical schools and teaching hospitals to train more generalist physicians, states have been able to: 1) achieve some congruence between public need and the existing supply of physicians and 2) more carefully account for limited state resources provided for medical education. To those ends, many have recently implemented—or are considering implementing—the following strategies.

Medicaid GME Payments Under Managed Care Channeled Directly to Teaching Programs, Often Emphasizing Primary Care Training

As states move rapidly to enroll their Medicaid population in managed care organizations (MCOs), Medicaid support for GME and related costs is at risk. Without some type of specific adjustment, MCO rates therefore include historical payments for graduate medical education, and MCOs are not bound to distribute those dollars to hospitals with GME programs or to provide GME themselves. Most states that have capitated their Medicaid program leave GME historical payments in the base used for calculating MCO payments. In all cases, the pressing issues of expanding enrollment and developing provider capitation arrangements have frequently relegated the issue of what to do about GME payment on Medicaid's "back burner."

Since 1996, state Medicaid agencies and graduate teaching programs have become much more attentive to addressing GME payments under managed care. Many teaching programs are reeling from the loss of Medicaid patients to MCOs and decreased patient care payments under managed care and face new reductions in Medicare IME payments. Confronted with financial crises, teaching programs increasingly appreciate the importance of Medicaid GME funds. At the same time, several Medicaid programs, seeking to be more prudent, far-sighted purchasers of care, recognize that support for GME is a valuable tool for meeting the future health care provider needs of Medicaid beneficiaries.

Several Medicaid programs have decided to establish mechanisms that "carve out" IME and DME dollars from managed care rates and channel the payments to teaching programs. To date, such measures have been approved for implementation in at least 13 states (Arizona, Colorado, Michigan, Minnesota, Nebraska, New Mexico, New York, Oklahoma, Pennsylvania, Tennessee, Texas, Virginia and Washington) and the District of Columbia. Another dozen states either are studying the issue or have plans pending to provide hospitals with GME payments.

Several states now want GME payments to reflect their larger desire for managed care programs to be more efficient and accountable to patient needs. At least five of the 13 states that have a Medicaid GME carve-out have some multidimensional requirement that those funds be used for primary care education or meet some other performance standard.

Regulations Requiring Public Medical Schools and Residencies to Establish Family Practice Clerkships and Rural Rotations in Community Settings

A 1989 law gave Texas the distinction of becoming the first state to require its public medical schools to incorporate into their curricula a third-year community clerkship in family practice for all medical students. The law also requires schools to report on their efforts to interest at least one-fourth of their students to enter a family practice residency. All medical students must complete a family practice clerkship during their third year of school. The same law requires all publicly funded residency programs to provide an opportunity for residents to have a one-month rotation in a rural community setting. The rural rotation is required to be offered as an optional site for all family practice residents.

Legislative Mandates Linked to Outcome-Based Measures

In hope of shifting the balance in physicians trained in generalist versus specialty practice, seven states (Arizona, Minnesota, North Carolina, Tennessee, Texas, Washington and Wisconsin) between 1992 and 1996 passed laws setting specific goals for its state-supported medical schools to increase the proportion of its graduates who plan to practice primary care. (In North Carolina, private schools also are obligated.) Typically, schools are required to prepare a plan with the goal of training 50 percent of their graduates who plan to practice primary care by a certain date. Whether such measures will be effective in shifting the balance remains to be seen.

Considering the Establishment of a Medical Education Trust Fund Funded by Multiple Payers

A state's ability to justify establishing a GME fund that pools Medicaid dollars with new and existing state GME appropriations, and perhaps Medicare dollars, makes state (and federal) support more open to public scrutiny, focuses attention on how the funds are used and facilitates a link with state workforce needs. Having a dedicated pool also makes it easier to identify spending levels and rationalize distribution of funds in accordance with workforce needs. In addition to New York, which for many years has supported GME through an all-payer fund, Minnesota's Legislature in 1997 approved and funded the creation of a similar fund, and at least two other states (Georgia and Utah) are discussing various means of pooling GME.

Monitoring the Use of Faculty Clinical Revenues in Public Medical Schools

Although the vast majority of state support for undergraduate medical education is unrestricted, some state lawmakers have questioned whether revenues generated by public medical faculty practice plans are publicly accountable funds and thus whether the spending of such revenues by public medical schools should receive increased state oversight and control. At issue is the degree to which states ultimately can require public medical schools to direct practice plan revenues to generalism education in community settings (e.g., clerkships, rotations, preceptorships) and other functions where there is a need for balance.

Concerned that primary care programs within the state's medical school were experiencing significant financial difficulty, the Kansas Legislature in 1993 mandated an outside study to look at the efficiency of faculty practice plans. The study suggested that the medical school combine its several plans into a single foundation and reexamine its spending priorities. In 1996, Texas lawmakers were pressured to appropriate more funds for GME in a near budget-neutral climate. In order to make that possible, some family medicine educators advocated that either: 1) Texas public medical schools and teaching hospitals reallocate current resources for nonprimary care residency positions (including some portion of clinical practice plan revenues) to primary care training or 2) state funds to the medical schools be reduced by 1 percent, dedicating the funds to support the state's family practice training program. ■

Model Trends in State GME Support

Tennessee

In 1996, Tennessee, under its replacement Medicaid program (TennCare), became the only state to stipulate that GME money flow directly to medical schools, thus circumventing the requirement that teaching hospitals may only use GME funds to educate students in hospital-based settings. Graduate medical education funding now will follow residents to training sites and be distributed to the state's medical schools to pay the residents' basic stipends and provide conditional stipend supplements that encourage primary care training in community sites as well as the placement of those trainees in underserved areas. That represents a radical departure from Medicaid's status quo support for GME before TennCare and the turmoil that followed in 1995 when it briefly stopped paying for GME altogether.

Early problems with TennCare centered on the lack of primary care providers in many rural areas of the state. It was during the process of restoring GME support by TennCare that the need to change the way GME funds were distributed and set certain standards of performance became apparent. The plan developed by the TennCare GME Working Group is to be phased in over a five-year period. By July 1, 2000, 50 percent of the aggregate residency positions under the sponsorship of the state's four medical schools must be in one of the primary care specialties. Each medical school now must comply with rigorous annual state reporting requirements.

Michigan

Medicaid GME policy in Michigan changed significantly in 1997 when the state sought to structure payments to bring physician education more in line with its specific public policy goals to train appropriate numbers of primary care providers, enhance training in rural areas and support education in ways of particular importance in the treatment of the Medicaid eligible population. All GME funds previously included in Medicaid fee-for-service hospital patient care payments and MCO capitation rates were carved out and directed for redistribution into two different pools.

The historic cost pool is meant to reimburse hospitals based on their 1995 costs incurred for medical education. A second pool, the primary care pool, seeks to encourage the education of young physicians in the primary care fields of general practice, family practice, preventive medicine, obstetrics and geriatrics. Payments from the primary care pool to hospitals are based on the institution's number of residents in primary care and its share of Medicaid patients. To qualify for reimbursement from either pool, a hospital must submit a report to the state detailing resident profiles and how it is using the funds to support specific public policy goals and priorities.

A third pool, the Innovations in Health Professions Education Grant Fund, was established with GME funds formerly included in capitation payments to MCOs to foster innovations in health profession education and accelerate the pace of change currently sweeping the state's health care delivery system. Grants are awarded on a competitive basis to programs that support the goals of the new GME initiative, with emphasis on innovative training in managed care arrangements. Only consortia consisting of at least a hospital, a university and a managed care organization are eligible to apply.

Minnesota

Finding that medical education is important to the state's economy and that a more competitive health care market threatens many state teaching hospitals, the Minnesota Legislature in 1993 charged the commissioner of health with estimating the total costs of medical education and research in the state. A subsequent series of advisory committee reports rigorously identifying the need and support for explicit funding of medical education and research culminated in a 1996 estimate that approximately $37 million (the deficit between teaching program costs and revenues) was at risk of being lost to competition in the state's managed care market (excluding any reductions in Medicare GME payments).

To address the deficit, at least in part, the Legislature that same year authorized creation of a medical education and research trust fund to capture new and existing state sources of medical education funds. In 1997, lawmakers appropriated $5 million in new funding from the state's general fund and $3.5 million from an existing state health care provider tax pool.[7] Sponsoring institutions are eligible to apply on behalf of their accredited programs and are responsible for distributing the funds to the more than 300 training sites that actually incur the cost of medical education (including nonhospital settings). Eligible applicants are accredited programs that train physicians, advanced practice nurses, physician assistants, doctor of pharmacy practitioners and dentists. Reports from the training institutions are required to document that the distribution was made appropriately. In 1998, the Legislature provided ongoing support for the trust fund by appropriating $10 million from the state's general fund for distribution in FY 1999 and increasing the Department of Health budget by $5 million annually beginning in FY 2000.[8]

Lawmakers also agreed in 1997 to carve out GME funds from Medicaid managed care rates, beginning in 1999. The funds will be directed to the new trust fund for distribution. Plans for how to distribute such funds currently are being debated, including whether distribution will be linked to certain performance measures. The Department of Health has recommended that distribution be based equally on the amount of medical education and Medicaid revenue volume at a given teaching site.

West Virginia

The state's comprehensive approach to health professions education includes training medical students and creating medical residency rotations in rural areas and recruiting students to those rotations based on criteria designed to foster primary care. Eight "primary health care education" sites under the Rural Health Initiative (RHI) have been established for medical, other health professional and allied health education. State law identifies performance indicators, which have been used to evaluate program performance for the various sites.

A 1991 law obligates the state to commit $6 million annually to the initiative for five years. About $4 million of the total goes to medical schools and $2 million to help equip hospitals and clinics to give students "hands-on" experience. Funds for the initiative are lodged in the West Virginia University Health Sciences budget, but other sources of private, user and community support are required. Students from seven health professional schools, including three medical schools (one osteopathic), are rotating through the combined RHI/Kellogg network. (The RHI represents matching support for the W.K. Kellogg Foundation community partnerships project, which is now completed.)

Texas

An extensive 1989 law required the Texas Higher Education Coordinating Board, the newly established Center for Rural Health Initiatives, medical and other health care education schools to cooperate to improve and expand programs for rural areas, including the following: 1) encourage and coordinate the creation or expansion of a rural preceptor program among medical schools and teaching hospitals; 2) require family practice residency programs to provide an opportunity for residents to have a one-month rotation through a rural setting; 3) develop relief service programs for rural physicians to facilitate access to continuing medical education; and 4) require medical schools to incorporate a third-year clerkship in family practice for all medical students and report on its efforts to fulfill the intent of having at least 25 percent of first year primary care residents in family practice.

A follow-up 1995 law included several new provisions to improve the supply of family practice physicians. Among those pertaining to medical education are: 1) new statewide preceptorship programs in general internal medicine and general pediatrics modeled after the existing family practice preceptorship program; 2) an additional $1 million for a family practice residency training program (the first increase in state funds for the program since 1988); 3) three family practice residencies to provide services in economically depressed or rural areas of the state, and 4) support for an additional 150 community-based primary care residency positions phased in over five years, although per-resident allotments will not increase.

Primary Care and Undergraduate Medical Education. About 1,100 Texas students spend one month per year in a rural clerkship. Each school is directed to expend specific amounts from its state appropriations or institutional funds for the clerkships. For 1996-97, the Legislature mandated that a total of $7.3 million be spent on the clerkships across eight medical schools. It is not clear, however, whether the clerkship requirement is a significant influence on a student's decision to practice family medicine. A 1993 report by the Office of the State Auditor of the family practice clerkship indicated it is too early to determine the requirement's effectiveness in increasing the number of family practice physicians.

Created by the Legislature in 1983, the Family Practice Preceptorship Program provides state funds to medical students at each of the eight state schools for an elective four-week opportunity to work at a primary care physician practice site. (Family practice preceptorships occurred before 1984 without state support.) The program is administered by the Higher Education Coordinating Board in conjunction with the Texas Academy of Family Physicians, which assists in the recruitment of preceptors. Preclinical students receive a $500 stipend; clinical students receive $600. Total state funds for the program haves remained similar to or slightly higher than original appropriation levels.

Primary Care and Graduate Medical Education. In 1977, the Legislature first made state financial support available for postgraduate training in family medicine. The law gives the Texas Family Practice Residency Program, administered by the board, authority to allocate state funds to family practice residencies on a contract basis. The program appropriated about $852,000 to 12 operating residencies to support 267 positions and to nine new programs for planning activity in 1977-78. By 1994-95, the state provided about $8 million to 23 programs sponsored by Texas medical schools, supporting more

than 60 positions. Today, 25 state-funded programs support 698 positions. (Another six family practice residency programs and 100 positions currently do not receive state support.)

The board requires all programs to have substantial sources of support from other entities, such as patient revenue, hospital and local funds or medical schools; funds are limited to no more than 35 percent of a program's total budget. The board also is required by the 1977 law to provide for prior budget review and audits of all funded programs and to collect information from programs about the area distribution of family physicians and the improvement of medical care in underserved communities.

The effect of the rural rotation requirements has been beneficial—both because rural practice was incorporated into the core curricula for medical students and because it was elevated to the level of an optional rotation in residency programs. As a result, there are increased opportunities to expose more physicians in training to rural practice. At least 20 percent of medical school graduates practice in a rural county. A retention study conducted recently found that as many as 66 percent of the graduates of state residency programs between 1972 and 1983 remained in the area where they completed their residencies. In general, nearly 90 percent of the more than 2,000 family physicians trained in state-funded residencies have remained in the state to practice. Of those, 40 percent work in towns of 50,000 or fewer residents.

In 1997, the Legislature agreed to have Medicaid "carve out" funds for graduate medical education from HMO capitation rates and channel the money to teaching hospitals. Funds will be distributed on a phase-in basis according a formula that emphasizes support of primary care residency training.

Current Funding Issues. Although the number and size of Texas' family practice residencies have grown, per-resident spending (adjusted to 1996 dollars) has declined since the early 1980s. The aforementioned 1995 law provided an enhanced level of funds for family practice training and expanded the number of state-supported primary care residency positions but did not increase the per-resident allotment. Many workforce experts believe that an increasing number of residency programs will operate from a service vantage rather than from an educational perspective. In response, some medical educators in 1996 proposed that the state cover the entire cost for a primary care resident that can be attributed to education—that is, that it pay up to 35 percent of a program's current total resident training costs, including a portion of faculty expenses, through direct general revenue appropriations.

In part, the rationale behind seeking further state support for graduate training is that funds for community-based faculty to supervise residents is inadequate and further that revenue to support academic missions is threatened by the reduction of Medicare GME support and the explosive growth of commercial and Medicaid managed care plans, which may exclude these teaching programs from participation. ■

A Policy Issues Checklist

As evidenced by their long history of extensive financial support, most states believe medical education to be a public good—that is, a good or service that benefits the public at large and will not be produced at the appropriate level in the private market because of difficulty in pricing it. Although the community at large, including future patients and physicians, benefits from medical education, it is impossible to charge future beneficiaries. If left to itself, the private market will underproduce graduate medical education. Managed care organizations and other health plans are not investing in support for medical education. Moreover, the costs of training are too great for many medical trainees to pay entirely without incurring large debts.

In deciding how they should continue to support medical education, states should resolve to address the following issues:

1. **What do states want from their medical schools?**
   What are a state's priorities? Appropriate medical workforce vs. ability to attract federal research dollars vs. biotechnology vs. institutional prestige vs. community service?

2. **How effective are state-supported medical schools and residencies in preparing physicians to meet public needs?**
   - What is the school's mission with respect to primary care and geographic distribution of graduates?
   - Does the school have a department of family medicine? What proportion of the physicians on faculty are family doctors?
   - What proportion of medical school applicants graduated from high school in nonmetropolitan counties and inner-city communities? How does that proportion compare with the proportion of the state's population living in these areas?
   - How many schools require a family practice clerkship for students?
   - What proportion of graduates are doing their residency training in the state?
   - How many residencies are located in medically underserved areas of the state?
   - What proportion of graduates are doing their state-based residency training in a primary care specialty? What proportion of the residencies require a rural or inner-city rotation?
   - What proportion of graduates are in primary care practice in the state? What proportion of graduates are practicing in the state's medically underserved areas?
   - Is there a process for tracking and reporting such information to training programs and the general public?

3. **How can states improve the chances that their state-supported medical schools and residencies will prepare physicians to meet public needs?**
   - Is it appropriate for state legislatures to become involved in defining and monitoring the missions or expected achievements of state-supported medical schools and residencies? Should the state establish regular reporting requirements for training programs and enforceable penalties for noncompliance?
   - Should state appropriations remain unrestricted or should they be linked to performance with respect to these achievements?

- Does a state have the right to oversee and perhaps direct a public medical school's location and expenditure of clinical practice plan revenues?
- What is an appropriate level of state support for graduate training in primary care?
- Should states provide more support to education for nurse practitioners and physician assistants?
- Is there value in Medicaid paying for GME in other ways that better matches the state's workforce needs, such as:
  a) Carving-out the premium paid to MCOs and rewarding compliance with state workforce goals?
  b) Making payments for graduate nursing education (GNE) as well as GME? What are the fiscal implications?
  c) Making payments to teaching programs outside of hospitals to consider the educational settings actually providing the training and where graduates will be likely to practice?
  d) Setting distribution formulas and determining training program performance requirements that emphasize training in certain specialties, skill areas and settings (known to be in short supply *or* related to achieving better service for Medicaid recipients and other underserved or uninsured populations), and that improve the geographic distribution and ethnic diversity of the health workforce?
- Should a statewide health professions education council be created to receive and distribute all state Medicaid and general fund GME payments? To carry out its mission, such a council could, among its functions, conduct major assessments of state health workforce needs, determine graduate training costs and revenues, and shift funds across training programs to achieve workforce goals.

4. What is an appropriate and fair level of state support for graduate medical education?

- How should a state determine the importance and level of Medicaid GME support in comparison to GME funds from state appropriations and other sources?
- In determining Medicaid's fair share, should a state continue to link GME payments to patient care or weigh the value of making payments based only on education costs?
- Should Medicaid GME funds go to training institutions that provide little or no service to Medicaid recipients?
- Will Medicaid's managed care "gatekeeper" workforce needs be met without it having to fund GME?
- How understood, documented and justified are statewide GME costs and revenues?
- Under managed care, are there more efficient means of payment that Medicaid can use in paying for GME? Should the number of filled residency and graduate nursing positions that qualify for Medicaid GME/GNE payments or total funding levels be capped to control costs and allow the state to pay only for those health professionals it needs?
- Should state support for graduate training be weighted toward creating new programs or strengthening existing programs?
- Can a state enhance its investment in GME by establishing a dedicated medical education and research trust fund that pools general revenue funds, Medicaid, other state funds, provider/insurer taxes, etc.? Should such a fund be created to offset a proportion of teaching hospital revenues at risk of being lost to managed care? ■

Endnotes

1. J. Weiner, "Forecasting the Effects of Health Reform on U.S. Physician Workforce Requirement: Evidence from HMO Staffing Patterns," *Journal of the American Medical Association* 272, no. 3 (July 20, 1994).

2. Association of American Medical Colleges, *1998 Institutional Goals Ranking Report* (Washington, D.C.: AAMC, June 1998).

3. Not all states that pay for GME cover the cost of both direct and indirect medical education. California for the first time in 1997 elected to pay for GME under its Medicaid program. Conversely, Medicare is required under federal statute to reimburse hospitals for both direct and indirect GME costs.

4. D. Plumb and T. Henderson, *Medicaid Funding of Graduate Medical Education: A Survey of the States* (Washington, D.C.: George Washington University, 1995).

5. T. Henderson and W. Fox-Grage, *Training Nurse Practitioners and Physician Assistants: How Important is State Financing?* (Washington, D.C.: National Conference of State Legislatures, November 1997).

6. Ibid.

7. These dollars have been matched with approximately $9.3 million in federal Medicaid funds. A new assessment of private payers was considered, but was rejected because the assessment could not include self-funded plans due to restrictions under the federal Employee Retirement Income Security Act (ERISA), which prevents states from regulating the health plans of large employers that self-insure.

8. New York is the only other state that supports GME through an all-payer fund.

Appendix

Table One: 1997 Allopathic Medical School Graduates Planning to Practice In-State, By Location of Medical School

Table Two: Number of Physician Residents and Residency Programs by State, 1996

Figure One: State Funding of Medical Education: Medical School Revenues

Figure Two: State Funding of Medical Education: Percent Medical School Revenues

Table 1
1997 Allopathic Medical School Graduates Planning to Practice In-State, By Location of Medical School

Geographic Area	Percent of Graduates Planning to Practice In-State	Number of Graduates Planning to Practice In-State	Number of Graduates With Stated Plans	Number of Graduates With No Stated Plans or Not Responding	Number of Medical Schools
WASHINGTON	89.0%	105	118	22	1
ARKANSAS	88.6	70	79	39	1
MISSISSIPPI	85.1	40	47	28	1
CALIFORNIA	84.0	652	776	198	8
PUERTO RICO	81.1	120	148	29	3
MINNESOTA	79.1	129	163	77	2
SOUTH DAKOTA	78.9	30	38	13	1
GEORGIA	77.8	196	252	94	4
TEXAS	77.5	569	734	256	7
HAWAII	75.0	33	44	8	1
FLORIDA	73.7	165	224	83	3
ARIZONA	73.0	46	63	26	1
SOUTH CAROLINA	72.7	72	99	59	2
INDIANA	72.6	90	124	88	1
NEVADA	71.9	23	32	13	1
COLORADO	71.4	60	84	34	1
KANSAS	71.0	71	100	47	1
KENTUCKY	70.5	110	156	64	2
WEST VIRGINIA	70.2	59	84	33	2
NEW MEXICO	69.6	32	46	13	1
OREGON	69.0	40	58	20	1
OKLAHOMA	68.8	64	93	26	1
NORTH CAROLINA	68.1	175	257	134	4
MICHIGAN	66.4	217	327	155	3
UTAH	61.4	35	57	29	1
ALABAMA	61.2	90	147	67	2
OHIO	59.3	269	454	274	6

Table 1
1997 Allopathic Medical School Graduates Planning to Practice In-State, By Location of Medical School

Geographic Area	Percent of Graduates Planning to Practice In-State	Number of Graduates Planning to Practice In-State	Number of Graduates With Stated Plans	Number of Graduates With No Stated Plans or Not Responding	Number of Medical Schools
North Dakota	58.1%	25	43	11	1
New York	56.9	572	1005	460	12
Tennessee	56.2	118	210	120	4
Louisiana	55.2	148	268	138	3
New Jersey	54.8	103	188	101	2
Illinois	54.4	344	632	266	7
Virginia	50.4	134	266	129	3
Wisconsin	48.5	99	204	103	2
Iowa	47.9	46	96	69	1
Massachusetts	43.2	137	317	172	4
Missouri	41.5	88	212	114	4
Pennsylvania	40.7	251	617	389	7
Nebraska	33.6	39	116	65	2
Maryland	25.9	60	232	184	3
Vermont	25.7	9	35	30	1
Connecticut	23.9	22	92	73	2
Rhode Island	20.5	9	44	17	1
New Hampshire	15.6	5	32	15	1
Dist. of Columbia	9.0	22	244	147	3
Alaska	--	--	--	--	--
Delaware	--	--	--	--	--
Idaho	--	--	--	--	--
Maine	--	--	--	--	--
Montana	--	--	--	--	--
Wyoming	--	--	--	--	--

-- State has no allopathic medical school.

Source: Association of American Medical Colleges. *1998 Institutional Goals Ranking Report*. Washington, D.C., June 1998.

Table 2
NUMBER OF PHYSICIAN RESIDENTS AND RESIDENCY PROGRAMS BY STATE, 1996

Geographic Area	Number of Physician Residents per 100,000 Population	No. of Residency Programs	No. of Physician Residents
NEW YORK	81	1,103	14,680
MASSACHUSETTS	71	337	4,331
RHODE ISLAND	66	49	649
PENNSYLVANIA	54	531	6,509
CONNECTICUT	53	153	1,747
ILLINOIS	46	401	5,472
MARYLAND	45	187	2,266
MINNESOTA	45	145	2,065
MICHIGAN	44	322	4,249
MISSOURI	43	193	2,314
OHIO	42	385	4,706
LOUISIANA	39	145	1,704
VERMONT	39	24	227
DISTRICT OF COLUMBIA	38	184	1,900
HAWAII	35	32	418
TENNESSEE	34	153	1,799
WEST VIRGINIA	34	63	617
NORTH CAROLINA	33	205	2,384
TEXAS	33	443	6,107
NEBRASKA	32	44	524
NEW JERSEY	31	176	2,435
WISCONSIN	30	139	1,536
DELAWARE #	29	12	206
IOWA	28	72	786
VIRGINIA	28	159	1,837
CALIFORNIA	27	657	8,662
COLORADO	27	77	1,008

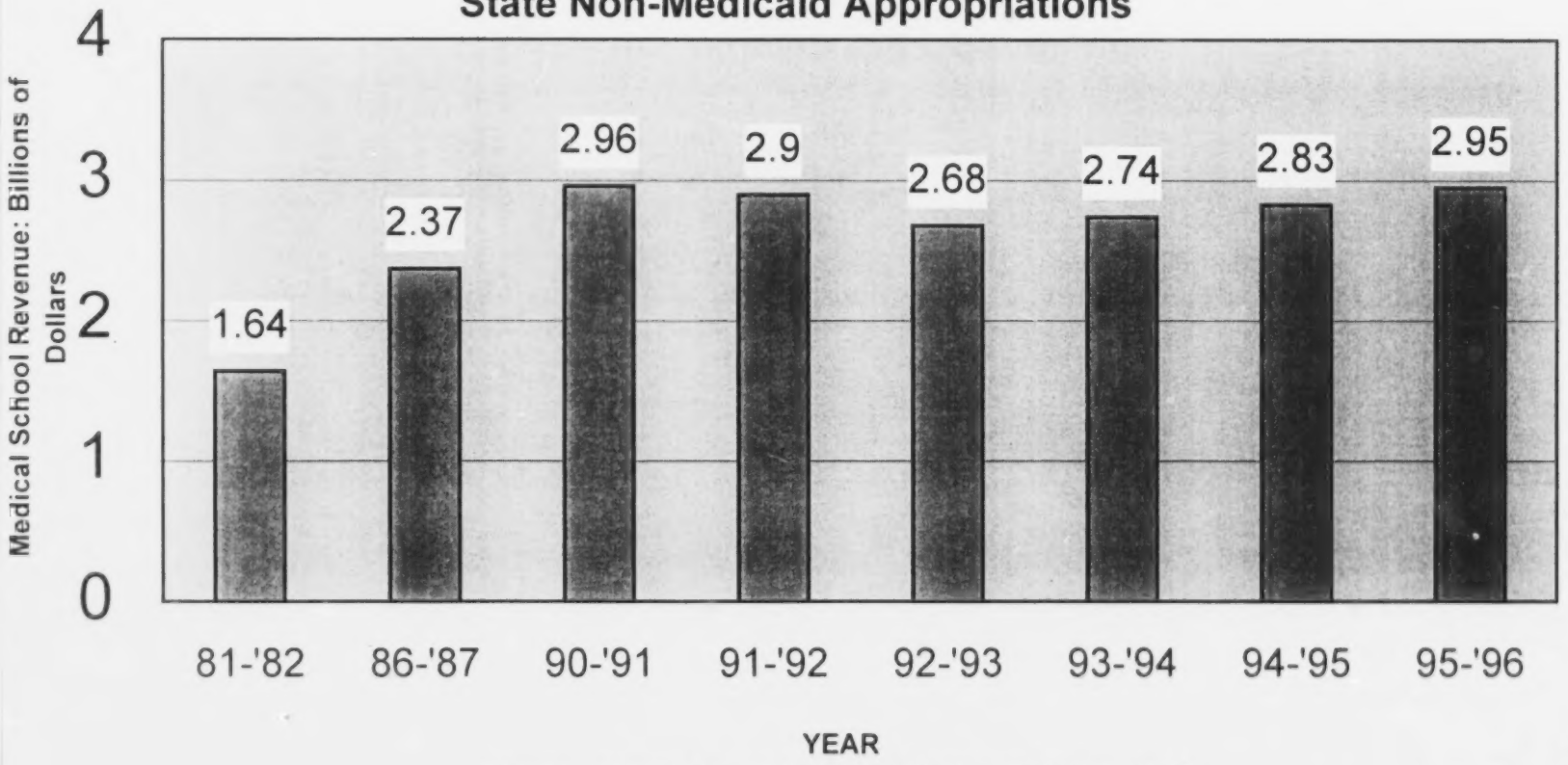
Table 2
NUMBER OF PHYSICIAN RESIDENTS AND RESIDENCY PROGRAMS BY STATE, 1996

KANSAS	27	54	687
WASHINGTON	27	99	844
SOUTH CAROLINA	26	78	942
UTAH	26	53	514
ALABAMA	25	90	1,048
ARIZONA	25	79	1,064
GEORGIA	25	139	1,786
KENTUCKY	25	84	975
NEW MEXICO	25	44	418
ARKANSAS	24	53	603
NEW HAMPSHIRE	24	33	276
PUERTO RICO	22	77	844
INDIANA	21	94	1,229
OKLAHOMA	21	63	675
OREGON	20	52	613
FLORIDA	19	215	2,678
MAINE #	18	19	228
NORTH DAKOTA	18	8	115
MISSISSIPPI	17	38	454
SOUTH DAKOTA	12	8	88
NEVADA	10	8	156
WYOMING #	9	2	43
IDAHO #	4	3	42
MONTANA #	1	2	7
ALASKA #	0	1	0

= State has no allopathic medical school

Source Association of American Medical Colleges, September 1997

Figure 1
STATE FUNDING FOR MEDICAL EDUCATION:
MEDICAL SCHOOL REVENUES
State Non-Medicaid Appropriations

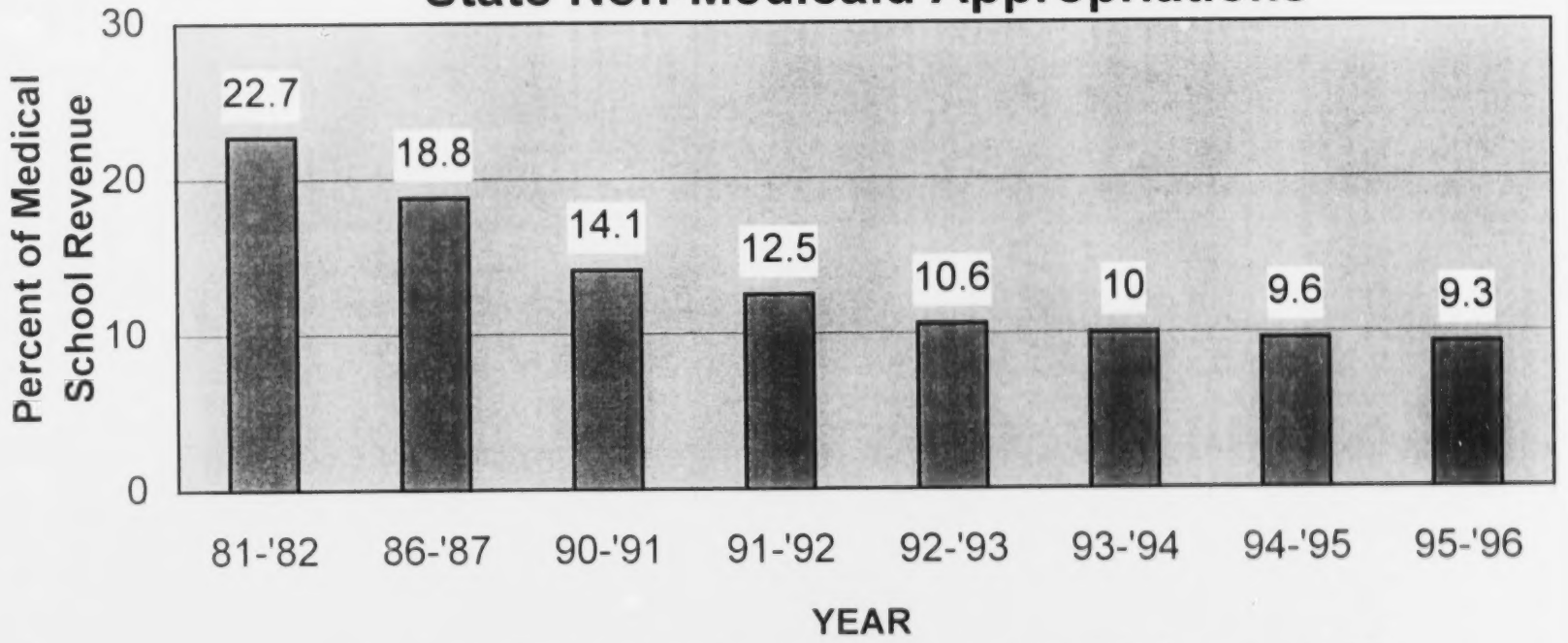


Source: Association of American Medical Colleges, 1998.

Figure 2

STATE FUNDING FOR MEDICAL EDUCATION: PERCENT MEDICAL SCHOOL REVENUES

State Non-Medicaid Appropriations



Source: Association of American Medical Colleges, 1998.

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